KPDES FORM SDAA

Kentucky Pollutant Discharge Elimination System (KPDES)

Socioeconomic Demonstration and Alternatives Analysis

The Antidegradation Implementation Procedure found in 401 KAR 10:030, Section 1(3)(b)3 requires KPDES permit applications for new or expanded discharges to waters categorized as "Exceptional or High Quality Waters" to conduct a socioeconomic demonstration and alternatives analysis to justify the necessity of lowering local water quality to accommodate important economic or social development in the area in which the water is located. This demonstration shall include this completed form and copies of any engineering reports, economic feasibility studies, or other supporting documentation

I. Project Information

Facility Name:SMCRA Permit No. 866-0295 AM 2

Location:Approximately 2.65 miles south of Cinda on Raccoon Creek	**County:Leslie**

Receiving Waters Impacted:UT to Muncy Branch, Muncy Branch, UT to Raccoon Creek, Raccoon Creek

II. Socioeconomic Demonstration

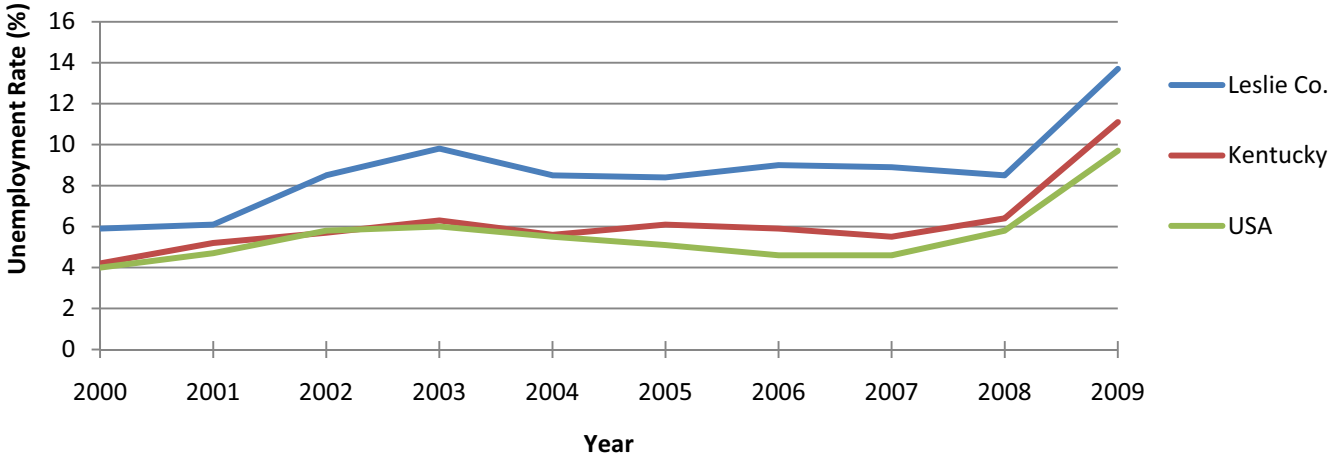
1. Define the boundaries of the affected community:
(Specify the geographic region the proposed project is expected to affect. Include name all cities, towns, and counties. This geographic region must include the proposed receiving water.)

The proposed project is expected to affect the Eastern Coal Field region within the Central Appalachian Ecological region; including unnamed tributaries to Muncy Branch, unnamed tributaries to Raccoon Creek, Muncy Branch, and Raccoon Creek. Also affected by this project and located within Leslie County are the city of Beattyville and the towns of Cinda and Wooton.

2. The effect on employment in the affected community:
(Compare current unemployment rates in the affected community to current state and national unemployment rates. Discuss how the proposed project will positively or negatively impact those rates, including quantifying the number of jobs created and/or continued and the quality of those jobs.)

From 2000 through June of 2009, the unemployment rate in Leslie County has ranged from 5.9% to 11.9%. During the same time period, the unemployment rate has ranged from 4.2% to 11.1% in Kentucky and has also ranged from 4% to 9.7% in the United States of America (USA).

Chart 1:
Unemployment Rate Comparison



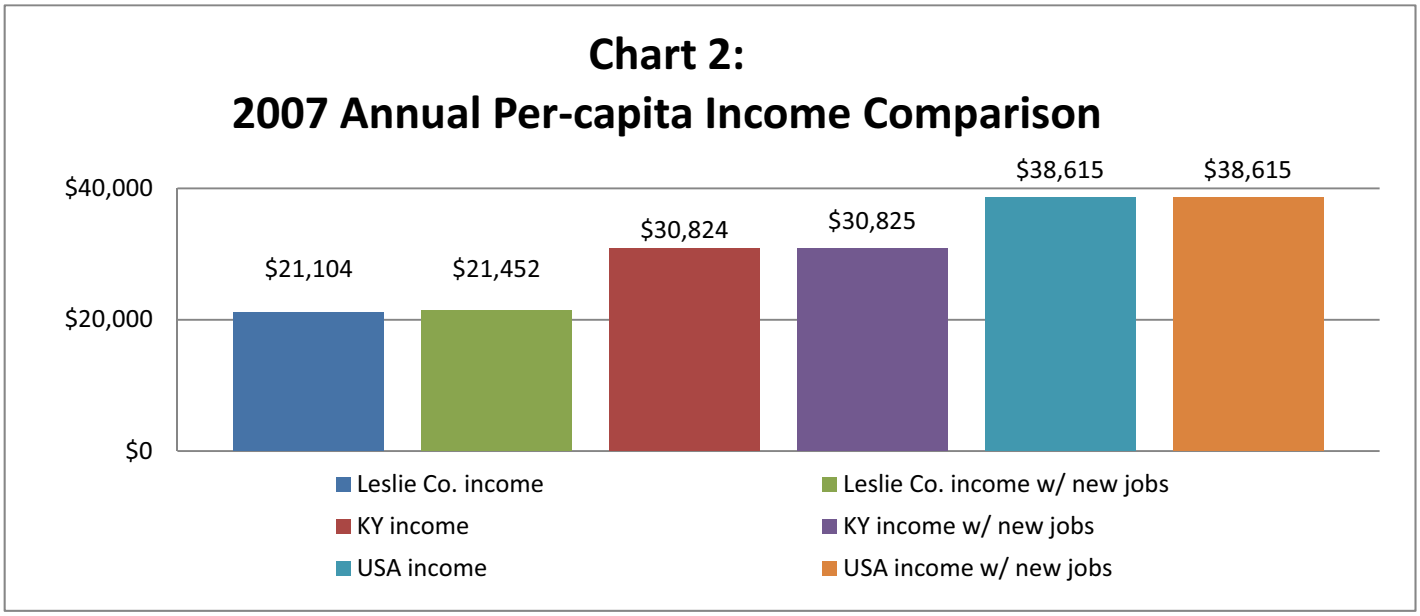
The proposed facility will employ approximately 68 workers, of which 100% will be workers transferred from another location and 95% will come from the local area. In 2008 there were 3,536 people in the Leslie County workforce with 300 unemployed, yielding an 8.48% unemployment rate. In 2008 there were 2,042,915 people in the Kentucky workforce with 131,675 unemployed, yielding a 6.45% unemployment rate. In 2008 there were 154,287,000 people in the USA workforce with 8,924,000 unemployed, yielding a 5.78% unemployment rate. Using these figures and assuming a 3:1 ratio of direct to indirect jobs created, the unemployment rates for Leslie County and Kentucky would drop to 1.13% and 6.43%, respectively. The unemployment rate for the USA would remain at 5.78%.

The 68 jobs created by the proposed operation will garner approximately $4,284,000 in annual wages for the employees, averaging $63,000 annually per employee. These jobs will be high quality, permanent in nature, and will be a source of sustained income for the employees hired. In addition to boosting the per capita income for the surrounding communities and the state as a whole, the proposed project will provide its workers with an attractive benefits package including, but not limited to, health, dental, and disability insurance and retirement plans. It is also estimated that seasonal employees will be added to the workforce during the summer months and holidays to supplement potential production loss from employee vacation and personal time. According to 2007 estimates, average per-capita income for all citizens in the Leslie County workforce amount to approximately $21,104. Without this project Leslie County will lose approximately 69 new jobs (including an assumed 4 new jobs for seasonal employees) and $4,347,000 in wages.

Utilizing the 3:1 ratio of direct and indirect jobs created by the Kentucky coal industry, this proposed project will create 65 new jobs that are permanent in nature with an additional 195 jobs created in other fields that provide services to the mining industry. These jobs include, but are not limited to, engineering services, equipment supply and maintenance, fuel and lubricant suppliers, and non-mining related suppliers of items such as food services, real estate, and education. During the 2006-07 fiscal year, coal mining in Leslie County generated approximately $10,866,500 in coal severance tax dollars. The proposed project will produce approximately 2,750,000 tons of coal over the life of the mine generating approximately $6,806,000 in tax dollars at current spot market prices.

II. Socioeconomic Demonstration- continued

3. The effect on median household income levels in the affected community:
(Compare current median household income levels with projected median household income levels. Discuss how proposed project will positively or negatively impact the median household income in the affected community including the number of households expected to be impacted within the affected community.)



The proposed project will likely change the median per-capita income in the county and state at large, while having a neutral affect to the median income for the United States of America (USA). The average per capita income for a resident of Leslie County, Kentucky, and the USA was $21,104; $30,824; and $38,615; respectively. After assuming the addition of 65 jobs to the county and $4,095,000 in wages from these jobs, the annual per capita incomes increased for Leslie County and Kentucky while the annual per capita income for the USA remained unchanged.

The market value of taxable property in the county will also benefit through the increased wages and additional disposable income made available to county residents both directly and indirectly. The proposed project will positively affect the surrounding communities by being directly responsible for the creation of 65 new jobs and indirectly responsible for the creation of an estimated 195 new jobs in fields that provide services to the mining industry.

The company will also provide an attractive benefits package to its employees that will include items such as health insurance, retirement plans, and dental and disability insurance. This will allow for households in the area to improve their living conditions through home improvement, new home construction, better access to medical care, and the creation of generational wealth through company backed savings and retirement plans. Social gains will also be made to the area through educational opportunities created through the increase in household income.

4. The effect on tax revenues of the affected community:

(Compare current tax revenues of the affected community with the projected increase in tax revenues generated by the proposed project. Discuss the positive and negative social and economic impacts on the affected community by the projected increase.)

During the 2006-07 fiscal year, coal mining in Leslie County generated approximately $10,866,500 in coal severance tax dollars. The proposed project will produce approximately 2,750,000 tons of coal over the life of the mine generating approximately $6,806,250 in tax dollars at current spot market prices. The increased tax revenue to the local community and state as a whole provided by the proposed project will amount to approximately $1,890,625 per year for the life of the mine, an annual increase of approximately 17% from the 2006-07 fiscal year. This proposed project will provide socio-economic benefits to the local communities through an overall increase in per capita income and an attractive benefits package to new workers allowing local households to benefit from enhanced living conditions through home improvement, new home construction, better access to medical care, the creation of generational wealth through company backed savings and retirement plans, and increased educational opportunities.

II. Socioeconomic Demonstration- continued

5. The effect on an existing environmental or public health in affected community:
(Discuss how the proposed project will have a positive or negative impact on an existing environmental or public health.)

Existing sources of pollutants consist of previous logging operations which have allowed excess sediment to enter the stream. In 2005 and 2007, approximately 4,200,000 cubic feet and 3,300,000 cubic feet of timber, respectively, was removed from Leslie County. From 1974 to 2005 timber production in Kentucky rose from approximately 85,000,000 cubic feet to 180,000,000 cubic feet. Previous logging operations have affected the immediate watershed and surrounding communities to the proposed project area through the introduction of sediment-laden water to the local and regional watersheds. To remedy these problems and prevent any further influx of sediment-laden water to the local and regional watersheds the proposed project will create pond structures to improve the quality of the discharged water. These structures will provide sediment control for the proposed project until Phase III bond release and subsequent pond structure removal and reclamation. Once the proposed project is completed the area will be reclaimed to approximate original contour and planted with trees and grasses thus creating a more balanced ecological environment. On-site trash collection and reclamation activities such as replacing topsoil and hydroseeding will help ameliorate the immediate and surrounding communities.

6. Discuss any other economic or social benefit to the affected community:
(Discuss any positive or negative impact on the economy of the affected community including direct and or indirect benefits that could occur as a result of the project. Discuss any positive or negative impact on the social benefits to the community including direct and indirect benefits that could occur as a result of the project.)

The proposed project will provide additional socio-economic benefits to the surrounding communities through infrastructure development. Creating additional access roads in the remote areas of the proposed project area will provide local residents the opportunity for future development in areas that could not have previously supported such improvements. The potential for creating pond structures along with additional access roads provide available fire control to once remote areas primed for future development. The local highway system will also benefit from the proposed project through tax revenues anticipated to provide local and regional roadway improvements.

III. Alternative Analysis

1. Pollution prevention measures:

(Discuss the pollution prevention measures evaluated including the feasibility of those measures and the cost. Measures to be addressed include but are not limited to changes in processes, source reductions or substitution with less toxic substances. Indicate which measures are to be implemented.)

The underground mining method was considered as an alternative to the surface mining methods proposed. However, using the underground mining method for coal extraction would affect the socio-economic benefits and compromise the water quality assumed in the original proposed permit plans. Additionally, due to the lack of a minimum depth of the coal seams to be mined, the splits associated with the coal seams, and the overlying strata not being sufficient size or type to provide adequate protection for the underground miners, this alternative was dismissed.

More advanced treatment options were considered, such as a wastewater treatment plant. The design runoff was calculated by using the SEDCAD computer model developed at the University of Kentucky. Using a 25-year/24-hour storm model for the projected project area produced 138,698,900 gallons of runoff in one rainfall event. The nearest downstream public water supply to the proposed project is located 85.9 river miles downstream in Beattyville, KY and is equipped to handle a maximum of 1,000,000 gallons of water per day. Considering the available options to upgrade a wastewater treatment facility, costs to upgrade this wastewater treatment facility for an additional 138,698,600 gallons of wastewater would range from $69,300,000 to over $277,000,000.

Chemical treatment options at the public water supply were also considered for the proposed project site. Chemical treatment costs can range from $0.50/gallon to $4/gallon and are dependent upon the wastewater constituents. Assuming 138,698,900 gallons of water generated from the 25-year/24-hour storm model and an average cost of approximately $2.25/gallon for the use of necessary chemicals will cost approximately $312,000,000 to chemically treat the discharge from the proposed site.

Containing the discharge in septic systems, or cisterns, was considered for on-site storage. Septic systems are not designed to handle water of this type. They are intended to breakdown organic and biodegradable materials. Use of such a system would essentially serve the same purpose as a sediment pond. Cistern use for storing the excess water is available for $65,000 per 75,000 gallon cistern, thus bringing an additional $120,100,000 to the cost of excess water storage for the proposed project.
Other alternative treatments were considered for the site such as the use of silt fences and straw bales, but were inadequate for the scale of the proposed site.

Other pollution prevention measures for the proposed project include the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as in-stream structures placed beneath the hollow fill toe as wastewater treatment measures to ensure proper particle settling of on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $316,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

2. The use of best management practices to minimize impacts:
(Discuss the consideration and use of best management practices that will assist in minimizing impacts to water quality from the proposed permitted activity.)

Best Management Practices (BMPs) will be utilized by this proposed project anticipating minimal disturbances in the construction and maintenance of pond structures designed to contain all water collected on-site. BMPs proposed for this application include minimizing surface disturbances, land grading, rip-rap placement where deemed necessary, progressive revegetation, mulching, temporary silt control where practical, and rock check dams to aid in wastewater particulate settling.

Surface mining disturbances will create a temporary increase in concentrations of suspended and settleable solids in the run-off from the mine site during the active phase of the operation. However, the sediment control structures will capture and reduce the suspended matter in the surface run-off before the water is discharged off-site to the receiving streams. Each structure has been appropriately designed to meet the established settleable solids limitations set forth by SMCRA regulations.

Volume weighted accounting of potential acidity and neutralization potential indicates that no potential acid or toxic condition is expected in the proposed permit area. During the active phase of the mining operation, the coal will be uncovered and extracted in a timely manner in order to minimize the time during which the seam is exposed to atmospheric conditions. Stockpiled coal will be protected from extraneous water sources. Strict adherence to the mining and reclamation plan for this proposed project will assist in minimizing potential impacts to water quality.

The proposed project will utilize the proposed mining and reclamation practices to prevent or minimize pollutants in the collection of on-site wastewater. Practices which may be utilized to minimize water pollutants include, but are not limited to, the following: land shaping to improve stabilization; diverting runoff to appropriate ponds for storage; quickly germinating and growing stands of temporary vegetation to prevent further sedimentation problems; regulating channel velocity of water; lining drainage channels with rock or vegetation; and mulching.

3. Recycle or reuse of wastewater, waste by-products, or production materials and fluids:
(Discuss the potential recycle or reuse opportunities evaluated including the feasibility of implementation and the costs. Indicate which of these opportunities are to be implemented)

The only significant reuse of water for the proposed permit operation would be redistribution over the mine area. On-site water redistribution is limited to watering haul roads for dust suppression, hydroseeding for reclamation, and watering of reclaimed areas. Typically, water redistribution of this type is limited to 1000 gallons/day/acre on slopes of 6% or less. However, with the terrain of the proposed project area contains slopes of approximately 30% and a possible runoff produced by a 25-year/24-hour storm in excess of 138,600,000 gallons, on-site redistribution would not be feasible. With 1021.57 acres of proposed surface disturbances and slopes of approximately 30% on-site, approximately 200 gallons/acre, or 204,314 gallons, of runoff could be reused on the total proposed project area. This leaves an excess of 138,395,686 gallons of water. Collecting and recycling the runoff on-site would require the installation and maintenance of piping, pump stations, and cisterns for an estimated $120,500,000. This cost estimate does not include the removal of said piping, pump stations, and cisterns. Due to the economic and feasibility constraints associated with the containment of on-site water via piping and cisterns, water reuse will consist of on-site redistribution and containment within pond structures.

III. Alternative Analysis - continued

4. Application of water conversation methods:
(Discuss the potential water conservation opportunities evaluated including the feasibility of implementation and the costs. Indicate which of, of these opportunities are to be implemented)

Water conservation opportunities exist for the proposed project. One such water conservation technique is on-site water redistribution, which is limited to watering haul roads for dust suppression, hydroseeding for reclamation, and watering of reclaimed areas. The aforementioned water re-use techniques will come at a cost of approximately $100,000 annually. These methods for on-site water redistribution will be implemented. Another conservation method is the use of fire prevention and suppression throughout the proposed project area for the surrounding communities through the use of available water stored within on-site ponds.

5 Alternative or enhanced treatment technology:
(Compare feasibility and costs of proposed treatment with the feasibility and costs of alternative or enhanced treatment technologies that may result in more complete pollutant removal. Describe each candidate technology including the efficiency and reliability in pollutant removal and the capital and operational costs to implement those candidate technologies. Justify the selection of the proposed treatment technology.)

On-site water re-use is limited by local topography and designed pond structure storage capacity. The proposed project can produce approximately 138,600,000 gallons of water assuming a 25-year/24-hour storm model. With 1021.57 acres of proposed surface disturbances and slopes of approximately 30% on-site, approximately 200 gallons/acre, or 204,314 gallons, of runoff could be reused on the total proposed project area. This leaves an excess of 138,395,686 gallons of waste water requiring treatment.

One such treatment method is the use of an existing wastewater treatment facility. The nearest downstream wastewater treatment facility is located in Beattyville, KY approximately 86 miles away from the proposed project and has a daily treatment capacity of 1,000,000 gallons of wastewater. The treatment options currently available at the existing wastewater treatment facility are limited with respect to sedimentation and one can expect significant upgrade costs to accommodate removal of said pollutant. Considering the available options to upgrade a wastewater treatment facility, costs to upgrade this wastewater treatment facility for an additional 138,395,686 gallons of wastewater would range from $68,100,000 to over $277,000,000.

The next option is storing the 138,395,686 gallons of excess water generated on-site and at the treatment facility. Storage of the 138,395,686 gallons, or approximately 425 acre-feet of excess water would require the use of additional pond structures at both the proposed project and the wastewater treatment facility. Approximately $10,600,000 will be needed to acquire the land, permits, and construct the ponds necessary to store the excess water.

The 138,395,686 of excess water will reach its destination at the water treatment facility through a piping system or hauled by tanker truck. One option to move the water generated on-site to the treatment facility in Beattyville requires the use of approximately 454,000 feet of pipe. At an estimate of $60 per foot for piping installation and 6 pumping stations at $150,000 each to assist gravity feeding, the cost of moving the water via an installed piping system for treatment at the Beattyville wastewater treatment facility is approximately $28,100,000. A second option to move the water generated on-site to the treatment facility in Hyden requires the use of approximately 55,000 feet of pipe. With the addition of a pumping station to assist gravity feeding over the steep ridges of the region, the cost of moving the water via an installed piping system for treatment at the Hyden wastewater treatment facility is approximately $3,450,000. A third option for moving the water from the proposed project area to the treatment facility would be the use of 4,000 gallon capacity tanker trucks at approximately $63,000 per truck. To move the 138,395,686 gallons of excess water and assuming a minimum number of trucks to maximize water transportation efficiency, the cost to transport water by tanker truck will be approximately $945,000,000.

Utilizing the proposed wastewater treatment plan, which provides sufficient removal of pollutants at a price of approximately $316,000, is the most viable option currently available.

III. Alternative Analysis - continued

6. Improved operation and maintenance of existing treatment systems:
(Discuss improvements in the operation and maintenance of any available existing treatment system that could accept the wastewater. Compare the feasibility and costs of improving an existing system with the feasibility and cost of the proposed treatment system.)

The cost to upgrade the existing water treatment facility to sufficiently treat the 138,395,686 gallons of excess wastewater would range from $68,100,000 to over $277,000,000. The nearest downstream wastewater treatment facility is located in Beattyville, KY approximately 86 miles away from the proposed project and has a daily treatment capacity of 1,000,000 gallons of wastewater.

Chemical treatment options at the public water supply were also considered for the proposed project site. Chemical treatment costs can range from $0.50/gallon to $4/gallon and are dependent upon the wastewater constituents. Assuming 138,395,686 gallons of water generated from the 25-year/24-hour storm model and an average cost of approximately $2.25/gallon for the use of necessary chemicals will cost approximately $311,300,000 to chemically treat the discharge from the proposed site.

Other pollution prevention measures for the proposed project include the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as in-stream structures placed beneath hollow fill toe as wastewater treatment measures to ensure proper particle settling of all on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $316,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

7. Seasonal or controlled discharge options:
(Discuss the potential of retaining generated wastewaters for controlled releases under optimal conditions, i.e. during periods when the receiving water has greater assimilative capacity. Compare the feasibility and cost of such a management technique with the feasibility and cost of the proposed treatment system.)

Seasonal or controlled discharge of the approximately 138,395,686 gallons of excess water generated on-site during a 25-year/24-hour storm is best achieved through storage in pond structures. After on-site water recycling is achieved, a surplus of approximately 425 acre-feet of excess water would require the use of additional pond structures at both the proposed project and the wastewater treatment facility. Approximately $10,600,000 will be needed to acquire the land, permits, and construct the ponds necessary to store the excess water. Storing the excess water in this manner will allow for a controlled or seasonal discharge at the discretion of the operator of the proposed project but at a more significant cost than the proposed treatment options.

Another pollution prevention measures for the proposed project include the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as in-stream structures placed beneath hollow fill toe as wastewater treatment measures to ensure proper particle settling of all on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $316,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

III. Alternative Analysis - continued

8 Land application or infiltration or disposal via an Underground Injection Control Well

(Discuss the potential of utilizing a spray field or an Underground Injection Control Well for shallow or deep well disposal. Compare the feasibility and costs of such treatment techniques with the feasibility and costs of .proposed treatment system.)

SEE ATTACHMENT

9 Discharge to other treatment systems

(Discuss the availability of either public or private treatments systems with sufficient hydrologic capacity and sophistication to treat the wastewaters generated by this project. Compare the feasibility and costs of such options with the feasibility and costs of the proposed treatment system.)

SEE ATTACHMENT

IV Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title:	DON GIBSON	**Telephone No.:**	(606) 878-7411
Signature:	Don Gibson	**Date:**	8/19/09

Kentucky Pollutant Discharge Elimination System (KPDES)
Instructions
KPDES Permit Application Supplemental Information

SECTION I – PROJECT INFORMATION

Facility Name:	Provide the name of the facility
Location:	Provide the physical location of the proposed project
County:	Indicate the county in which the facility is located
Receiving Water Name:	Indicate the water body into which the facility discharges or plans to discharge.

SECTION II – Socioeconomic Demonstration

For each factor provide a discussion of expected positive and negative impacts. Include appropriate support documentation.

SECTION III – Alternative Analysis

For each alternative compare the feasibility and costs of the alternative to the feasibility and costs of the proposed project and its treatment system. Include appropriate support documentation.

SECTION IV - CERTIFICATION

Name and Title:	Indicate the name and title of the person signing the form.
Telephone No.:	Provide the telephone number of the person signing the form.
Date:	Indicate the date which the form was signed.

This form being part of the permit application must be signed as follows:

Corporation: by a principal executive officer of at least the level of vice president
Partnership or sole proprietorship: by a general partner or the proprietor respectively

ICG Hazard, LLC
SMCRA Permit No. 866-0295 AM 2
KPDES Permit No. KYG045542
KPDES General Permit – SDAA
Attachments

8 Land application or infiltration or disposal via an Underground Injection Control Well

(Discuss the potential of utilizing a spray field or an Underground Injection Control Well for shallow or deep well disposal. Compare the feasibility and costs of such treatment techniques with the feasibility and costs of .proposed treatment system.)

Underground injection was considered as an option for storing the excess water generated by the proposed project. Containing and storing the excess water on-site would require the installation of excess piping, pump stations, and cisterns at a total cost of $120,100,000. The existing abandoned underground mines in the vicinity of the proposed permit area present a high risk level for areas of possible excess water discharge storage. In order to provide a safe alternative for subsurface disposal and/or storage of excess water discharge the abandoned underground mines must provide an impermeable medium. To provide an impermeable medium, the underground mine must have seals in place at each opening or entrance, must be absent from any bedrock fractures to prevent re-entrance into the groundwater and surface water systems, and must have enough storage volume to accommodate potentially 138,395,686 gallons of water. The abandoned underground mines in the vicinity of the proposed permit area also pose water quality concerns due to unknown amounts of water and the possibility of compromised quality of water currently being stored by the mine. The many levels of risk associated with injecting excess water discharge from the proposed surface mining operations into abandoned underground mines create a dubious option for water storage.

Injection into underground works or into a septic system could adversely affect the local groundwater supply by displacing any water in the area and creating a superfluous pressure-head. Such an increase in pressure-head will create the possibility for additional discharge from these areas and increase the chances for any blow outs which could ultimately prove to be a safety hazard. The injected water could possibly re-enter the ground water system and potentially the surface water system due to the likelihood of fractured geologic strata associated with the region.

Other pollution prevention measures for the proposed project include the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as in-stream structures placed beneath hollow fill toe as wastewater treatment measures to ensure proper particle settling of all on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $316,000 for the life of the mine. Due to safety and economic factors, the current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.

ICG Hazard, LLC
SMCRA Permit No. 866-0295 AM 2
KPDES Permit No. KYG045542
KPDES General Permit – SDAA
Attachments

9 Discharge to other treatment systems

(Discuss the availability of either public or private treatments systems with sufficient hydrologic capacity and sophistication to treat the wastewaters generated by this project. Compare the feasibility and costs of such options with the feasibility and costs of the proposed treatment system.)

The nearest downstream public water supply to the proposed project is located 86 river miles downstream in Beattyville, KY and is equipped to handle a maximum of 1,000,000 gallons of water per day. Assuming the on-site re-use of water, the proposed project is capable of generating approximately 138,395,686 gallons of water a day using a 25-year/24-hour storm model. The treatment options currently available at the existing wastewater treatment facility are limited with respect to sedimentation and one can expect significant upgrade costs to accommodate removal of said pollutant. Conservative estimates suggest that to upgrade a wastewater treatment facility, costs to upgrade this wastewater treatment facility for an additional 138,395,686 gallons of wastewater would range from $68,100,000 to over $277,000,000.

Chemical treatment options at the public water supply were also considered for the proposed project site. Assuming 138,395,686 gallons of water generated from the 25-year/24-hour storm model and an average cost of approximately $2.25/gallon for the use of necessary chemicals will cost approximately $311,300,000 to chemically treat the discharge from the proposed site.

The 138,395,686 of excess water will reach its destination at the water treatment facility through a piping system or hauled by tanker truck. One option to move the water generated on-site to the treatment facility in Beattyville requires the use of approximately 454,000 feet of pipe. At an estimate of $60 per foot for piping installation and 6 pumping stations at $150,000 each to assist gravity feeding, the cost of moving the water via an installed piping system for treatment at the Beattyville wastewater treatment facility is approximately $28,100,000. A second option to move the water generated on-site to the treatment facility in Hyden requires the use of approximately 55,000 feet of pipe. With the addition of a pumping station to assist gravity feeding over the steep ridges of the region, the cost of moving the water via an installed piping system for treatment at the Hyden wastewater treatment facility is approximately $3,450,000. A third option for moving the water from the proposed project area to the treatment facility would be the use of over 4,000 gallon capacity tanker trucks at approximately $63,000 per truck. To move the 138,395,686 gallons of excess water and assuming a minimum number of trucks to maximize water transportation efficiency, the cost to transport water by tanker truck will be approximately $945,000,000.

Depending on the choice of treatment facility upgrade, the choice of treatment option at said facility, and choice of moving the water from the proposed project to the treatment facility; one can expect the costs incurred for such treatment measures to be approximately $68,100,000 to $311,300,000.

Other pollution prevention measures for the proposed project include the use of on-site sediment control structures, or ponds. These ponds will be utilized on the bench of the active mining area and as

in-stream structures placed beneath hollow fill toe as wastewater treatment measures to ensure proper particle settling of all on-site water resources prior to off-site discharge. The ponds will be constructed incrementally in conjunction with the proposed mining plan to ensure proper containment and treatment of on-site wastewater. The construction and maintenance of the pond structures associated with the proposed project will cost approximately $316,000 for the life of the mine. The current wastewater containment and drainage control plan for the proposed project are the measures to be implemented.